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/Randall S. Jackson, Jr./

July 9, 2008

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Reg. No. 48,248

Date

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES
Ex parte Heiman
Appeal No. _____**

Serial No.: 10/696,683
Filed: October 29, 2003
Group Art Unit: 1794
Examiner: Jennifer A. Chriss
Appellant: Gary L. Heiman
Title: ENHANCED SURFACE GEOMETRY SHEETING
Attorney Docket: STAN-31
Conf. No.: 5261

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Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

July 9, 2008

Dear Sir or Madam:

REPLY BRIEF

This Reply Brief under 37 C.F.R. § 41.41(a)(1) is in response to the Examiner's Answer dated May 14, 2008 in the above captioned appeal.

This Reply Brief is filed to focus on specific issues raised by the Examiner's Answer and issues related thereto so that the Board may have a more complete picture of Examiner's rejections and prosecution of this application.¹

I. Rejections Based on Love

Examiner misconstrues the claim element "being a spun yarn of natural fibers". The present invention claims a woven fabric for use as a bed sheet with at least one of the filling yarns (claim 1) or warp yarns (claim 33) "being a spun yarn of natural fibers". In the Examiner's Answer, Examiner² states for the first time that "being a spun yarn of natural fibers" is not equivalent to claiming the spun yarn is made solely of natural fibers, thus allegedly leaving open the possibility that the spun yarns could also contain synthetic fibers. Examiner's construction of this element is not a fair reading of the claim language (nor consistent with the entire prosecution of this case over the last several years). "Being" is not an inclusive term as Examiner suggests. For example, "being of sound mind," indicates that one is mentally competent. According to Examiner's interpretation, "being of sound mind" could mean that one is both mentally competent and mentally incompetent. In the instant case, "being" clearly excludes synthetic fibers from at least one of the filling yarns (claim 1) or warp yarns (claim 33). As Examiner acknowledges, Love discloses that the "spun yarns can include a blend of natural staple fibers with synthetic fibers." Examiner's Answer, p. 3. A person of ordinary skill in the art reading the disclosure in Love would not say that the blended yarn is "being a spun yarn of natural fibers." Thus, the presently claimed invention clearly does not read on the disclosure in Love.

¹ Appellant submits that the Appeal Brief already submitted to the Board has addressed the issues not newly raised by Examiner in the Examiner's Answer. Appellant will thus not belabor that same material here, and instead incorporates and reaffirms the analysis and remarks previously presented to the Board in support of the reversal of the Examiner's rejections.

² It is noted that the Examiner who drafted the Examiner's Answer is new to the prosecution of this application.

Further, even assuming, for the sake of argument, that "being" might allow for the presence of some nominal amount of synthetic fibers in the yarn (a point which Appellant does not concede), the claims are still patentable over Love. The stated purpose of Love is creating an elastic fabric using non-elastomeric yarns. Love, Abstract and paragraph [0014]. Love discloses blends of natural and synthetic fibers capable of being heat-set to impart an elastic characteristic on the fabric. *Id.* In order to achieve this stated purpose, the yarns in Love are composed of a large percentage, at least 50%, of synthetic fibers. *Id.* A yarn having such a significant percentage of synthetic fibers is, at best, a yarn being a blend of natural and synthetic fibers, which is clearly not the presently claimed invention "being of natural fibers."

Regarding the obviousness rejections of claims 36 and 37 over Love, Appellant has clearly and succinctly pointed out the numerous deficiencies in Examiner's argument in the Appeal Brief. However, the assertions in the Examiner's Answer require additional comment clarifying Examiner's impermissible use of hindsight reconstruction.

Specifically, Examiner argues that Love teaches the use of twill weaves, and that 3 x 1 and 4 x 1 float patterns are twill weaves. Examiner's Answer, p. 8. Therefore, according to Examiner, one having skill in the art would be motivated to modify Love to create the presently claimed float patterns. *Id.* This would be contrary to the stated purpose of Love, however, which is to create an elastic fabric using non-elastomeric yarns. Love, Abstract and paragraph [0014]. To create the elastic effect, Love heat-sets the synthetic fiber yarns so as to maintain the yarn's crimp. Love, paragraph [0016]. One factor affecting yarn crimp is the float pattern. Yarns in a woven fabric are crimped every time a warp yarn passes over or under a fill yarn, and vice versa. Thus, in a woven fabric having a 1 x 1 weave pattern, a warp yarn is crimped at every fill yarn. As the float pattern increases, the amount of crimp necessarily decreases.

Therefore, the amount of yarn crimp and elasticity in a fabric having a 3 x 1 or 4 x 1 float pattern will be significantly less than the amount of crimp and elasticity in a 1 x 1 or even a 2 x 1 float pattern, which is contrary to the stated purpose of Love. For at least this reason, one skilled in the art would not be motivated to modify the float pattern of Love to achieve the presently claimed invention. Thus, Appellant submits that Examiner's rejection must be based solely on impermissible hindsight reconstruction due to the lack of motivation to modify Love to cover the presently claimed 3 x 1 or 4 x 1 float patterns.

Appellant respectfully submits that the anticipation and obviousness rejections over Love are clearly in error and should be overturned.

II. Rejections based on Collier in view of Lovingood.

Regarding Examiner's obviousness rejections over Collier in view of Lovingood, Appellant respectfully submits that Examiner has grossly mischaracterized the disclosures in these references and, further, that their combination is inappropriate. The stated purpose of Collier is to produce a fabric having a shot silk effect in the ground weave. The shot silk effect requires a fabric having weave patterns with a balanced number of warp yarns and fill yarns on the fabric's surface. The presently claimed invention requires a float pattern of $x > y$, and thus, does not have a balanced number of warp yarns and fill yarns on the fabric's surface.

To overcome the lack of teaching in Collier, Examiner asserts that "Collier states that the invention described in the patent can include a wide variety of changes and modifications to the preferred embodiments (column 10, lines 24 – 30)." Examiner's Answer, p. 8. Collier actually says, "it should be understood that a wide range of changes and modifications can be made to the preferred embodiments described above." But such a boilerplate statement, typical in most patents, is not alone a disclosure of every possible change or modification. Nor

can it alone be sufficient to provide motivation to modify the disclosures therein to render obvious the presently claimed invention. If Examiner's position is correct, then such typical boilerplate in every patent would render obvious all future developments, regardless of how novel they may be, simply because they could be interpreted to be a modification of the fabrics disclosed in Collier. That would be a ridiculous extension of the law.

When making an obviousness conclusion, Examiner must base the conclusion on "some articulated rational reasoning with some rational underpinning." *KSR Intern. V. Teleflex Inc.*, 127 S.Ct. 1727, 1741 (2007) (quoting *In re Kahn*, 441 F.3d 977, 988 (C.A.Fed. 2006)). Collier's boilerplate statement fails to provide rational reasoning with some rational underpinning. Moreover, when read in the context of the specification, it becomes clear that Collier does not contemplate alterations to the weave pattern. Specifically, in discussing possible modifications, Collier only discloses that "[n]umerous fibre combinations and dye and printing routes can be used in the invention to provide a wide variety of fabrics and visual effects." Collier, Col. 10, lines 8-23. Thus, Collier utterly fails to disclose or contemplate modifying the ground weave pattern from having a balanced number of warp yarns and fill yarns on the fabric's surface. Such a modification would run counter to the plain weave construction necessary to fulfill Collier's stated purpose. Thus, one having skill in the art at the time of the invention would not have considered modifying Collier to result in the presently claimed $x > y$ float pattern.

Appellant respectfully submits that the obviousness rejections over Collier in view of Lovingood are clearly in error and should be overturned.

III. Rejections based on Heiman in view of Fairchild dictionary

Regarding the obviousness rejections over Heiman in view of the Fairchild dictionary, Examiner acknowledges that Heiman only discusses a fabric having a simple 1 x 1 plain weave. Examiner's Answer, p. 9. However, Examiner, in a misguided attempt to rationalize the obviousness rejection states "Heiman does not teach or suggest other weave structures *can't* be used as the weave structure of the fabric" (emphasis in original). *Id.* As previously stated, Examiner must support an obviousness rejection with articulated "rational reasoning with some rational underpinning." *KSR*, 127 S.Ct. at 1741. Examiner's reliance on the absence of a statement in Heiman saying "other weave structures can't be used" does not provide a rational basis for maintaining the obviousness rejection. Examiner is attempting to read Heiman in an extremely broad manner, and, if allowed to do so, would create precedent for making nearly all inventions unpatentable on the basis that the prior art does not exclude the possibility of the invention. This standard would have disastrous consequences and could be used, for example, to conclude that the disclosure of a simple abacus renders obvious a digital calculator simply because the disclosure of the abacus failed to exclude the possibility that mathematic calculations could be carried out with a digital device. This simply cannot be the law and the obviousness rejections should be reversed.

Examiner relies on the definition of twill in the Fairchild dictionary to provide an alleged "suggestion and motivation to use a twill weave structure to improve the durability and strength of the woven fabric taught by Heiman." Examiner's Answer, p. 9. However, this conclusory statement regarding definition of twill fabrics alone is not sufficient to support the obviousness rejection. *KSR*, 127 S.Ct. at 1741 (*quoting In re Kahn*, 441 F.3d at 988 ("Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead there must

be some articulated rational reasoning with some rational underpinning to support the legal conclusion of obviousness")). Thus, Examiner must supply a rational reason why the skilled artisan would seek to modify Heiman with the disclosure in the Fairchild's dictionary. So, Examiner states "as set forth by Fairchild's, twill weaves are commonly known and provide improved properties with regard to strength and durability." Examiner's Answer, p. 9. Heiman already delivers an acceptably strong and durable plain 1 x 1 weave fabric, as repeatedly discussed in the abstract and throughout the body of the patent, and even in the claims. *See* Heiman, Abstract, col. 1, lines 49-52, col. 3, lines 10-16, col. 4, lines 8-12, col. 5, lines 55-58, and claims 1-21. And contrary to Examiner's statement, the Fairchild dictionary actually states "[t]will weaves are used to produce strong, durable, firm fabrics." The Fairchild's dictionary, p. 596. There is nothing in that statement to suggest that twill fabrics provide improved strength and durability over the sufficiently strong and durable fabrics disclosed in Heiman.

Examiner dismisses the improper use of hindsight reconstruction by baldly asserting that the rejections are not based on "knowledge gleaned only from Appellant's disclosure". Examiner's Answer, p. 10. Yet, Examiner provides no evidence to support that assertion. And, as explained above, Examiner points to no rational reason why one having skill in the art would find it obvious to modify the already successful fabric of Heiman in view of the Fairchild dictionary.

Regarding the obviousness-type double patenting rejections over Heiman in view of the Fairchild dictionary, Appellant asserts the same arguments as those presented above for the obviousness rejections. Furthermore, Examiner concedes that the claims of Heiman are directed to a genus (Examiner's Answer, p. 10, states "the claims of Heiman . . . instead recite a general woven fabric"). As discussed in Appellant's Appeal Brief, a genus does not necessarily

render obvious a later claimed species. *Eli Lilly v. Board of Regents of the University of Washington*, 334 F.3d 1264, 1270, 67 USPQ2d 1161 (Fed. Cir. 2003). Examiner must still provide a rational basis supporting the obviousness rejection. As discussed above, no such rational basis has been provided.

Therefore, the obviousness and obviousness-type double patenting rejections based on Heiman in view of the Fairchild dictionary are clearly in error and must be overturned.

IV. 37 C.F.R. §41.50(c) – Explicit Statements from the Board

Appellant Requests an Explicit Statement from the Board of How a Claim on Appeal may be Amended to Overcome a Specific Rejection

Appellant further respectfully requests that the Board include an explicit statement of how the claims on appeal may be amended to overcome the rejections currently pending before the Board. In particular, in the unlikely event this Board takes up Examiner's view that the claims as they stand are not sufficient to distinguish over the Love reference, Appellant believes the issues can be resolved by amending the claims to clarify and confirm what Appellant contends the claims mean anyway. To that end, Appellant asks the Board to advise as to the following possible amendment to the claims:

Amend the claims so that instead of reciting "being a spun yarn of natural fibers" they recite "being a spun yarn consisting essentially of natural fibers".

In the event that the Board is otherwise inclined to affirm the rejections (which Appellant submits are in error and should be reversed in any event), Appellant respectfully requests that the Board exercise its power as set forth in 37 C.F.R. § 41.50 (c) in order to streamline further prosecution.

Conclusion

For at least the reasons discussed above, and as set out in Appellant's Brief on Appeal, Appellant respectfully submits that the rejections of claims 1, 3, 14, 16, 16, 33, and 36-40 are in error and should be reversed.

Respectfully submitted,

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